

## Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC171522

1 of 32 Page:

# **FCC Radio Test Report**

FCC ID: 2AVF8-U-3000

TB-FCC171522 Report No.

**Applicant** Party House Entertainment IIc.

**Equipment Under Test (EUT)** 

**EUT Name** : Handheld Mic

U-3000 Model No.

W-801A,WM-200,WM-300,UHF-700,U-2800R,U-3000,U-3300, Serial Model No.

U-5000,U-5500,U-6000,U-6800R,U-6800RMINI,U-7000,U-7700,

U-8000,U-8800,U-902,U-9000,U-9900,U-9800,Tektronic UHF-2020A, PaAudip UHF-8000, Singtronic UHF-1000Pro,

Singtronic UHF-1500Pro, Singtronic UHF-4000Pro

**Brand Name** : Martin Ranger

**Receipt Date** : 2019-09-05

2019-09-05 to 2020-01-13 **Test Date** 

**Issue Date** 2020-01-13

**Standards** : FCC Part 15, Subpart C (15.249)

**Test Method** ANSI C63.10: 2013

**Conclusions PASS** 

In the configuration tested, the EUT complied with the standards specified above,

The EUT technically complies with the FCC requirements

Galen

**Test/Witness Engineer** 

LVAN SU **Engineer Supervisor** 

**Engineer Manager** 

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This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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## **Revision History**

Report No.	Version	Description	Issued Date
TB-FCC171522	Rev.01	Initial issue of report	2020-01-13
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## 1. General Information about EUT

#### 1.1 Client Information

Applicant		Party House Entertainment IIc.
Address		365 N. Berry St. Brea, CA 92821, United States
Manufacturer		MINESOUND ELECTRONICS CO., LTD
Address		Floor 2, building A, ChaoYang Industrial park, DongAn Industrial Zone, Enping, Guangdong, China

### 1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Handheld Mic		
Models No.	(3.1)	U-3000,W-801A,WM-200,WM-300,UHF-700,U-2800R,U-3000,U-3 300,U-5000,U-5500,U-6000,U-6800R,U-6800RMINI,U-7000,U-770 0, U-8000,U-8800,U-902,U-9000,U-9900,U-9800,Tektronic UHF-2020A,PaAudip UHF-8000,Singtronic UHF-1000Pro, Singtronic UHF-1500Pro,Singtronic UHF-4000Pro		
Model Difference : All these models are the same PCB, layout and electrical c the only different is model name.				
Product Description	3	Operation Frequency: 9 Number of Channel: 10 Max. Field Strength: Antenna Gain: Modulation Type:		
Power Rating	9	DC Battery AA(1.5V)*2 Voltage: 3V		
<b>Software Version</b>	÷	N/A		
Hardware Version		N/A		
Connecting I/O Port(S)	V 8	Please refer to the User's Manual		
Remark		The antenna gain provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.		

#### Note:

(1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



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## (2) Channel List:

Channel List						
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	
00	902.90	27	909.65	54	916.65	
01	903.15	28	909.90	55	916.90	
02	903.40	29	910.15	56	917.15	
03	903.65	30	910.40	57	917.40	
04	903.90	31	910.65	58	917.65	
05	904.15	32	910.90	59	917.90	
06	904.40	33	911.15	60	918.15	
07	904.65	34	911.40	61	918.40	
08	904.90	35	911.65	62	918.65	
09	905.15	36	911.90	63	918.90	
10	905.40	37	912.15	64	919.15	
11	905.65	38	912.40	65	919.40	
12	905.90	39	912.65	66	919.65	
13	906.15	40	912.90		1	
14	906.40	41	913.15	601110	· · · · · ·	
15	906.65	42	913.40	95	926.90	
16	906.90	43	913.65	96	927.15	
17	907.15	44	913.90	97	927.40	
18	907.40	45	914.15	98	927.65	
19	907.65	46	914.40	99	927.90	
20	907.90	47	914.65			
21	908.15	48	914.90			
22	908.40	49	915.15			
23	908.65	50	915.65			
24	908.90	51	915.90			
25	909.15	52	916.15			
26	909.40	53	916.40			

(3) Test channel:

00	902.90
49	915.15
99	927.90

## 1.3 Block Diagram Showing the Configuration of System Tested

#### TX Mode

	EUT	
١		
ì		
٦		



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#### 1.4 Description of Support Units

The EUT has been test as independent unit.

#### 1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test					
Final Test Mode Description					
Mode 1	TX Mode(Channel 00/49/99)				
	For Radiated Test				
Final Test Mode Description					
Mode 1 TX Mode(Channel 00/49/99)					

#### Note:

For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

- (1)According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels.
- (2)During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis, X-plane, Y-plane and Z-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

#### 1.6 Description of Test Software Setting

During testing channel & Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of RF mode.

### 1.7 Measurement Uncertainty

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.



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Test Item	Parameters	Expanded Uncertainty (U <sub>Lab</sub> )
	Level Accuracy:	
Conducted Emission	9kHz~150kHz	±3.42 dB
	150kHz to 30MHz	±3.42 dB
Radiated Emission	Level Accuracy:	±4.60 dB
	9kHz to 30 MHz	±4.00 db
Radiated Emission	Level Accuracy:	±4.40 dB
Radiated Effilssion	30MHz to 1000 MHz	±4.40 db
Radiated Emission	Level Accuracy:	±4.20 dB
Naulateu Elliission	Above 1000MHz	±4.20 UD



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#### 1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

#### **CNAS (L5813)**

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

#### A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.

FCC Accredited Test Site Number: 854351.

#### IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.



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## 2. Test Summary

FCC Part 15 Subpart C(15.249)						
Standard Section Test Item Judgment						
15.203	Antenna Requirement	PASS	N/A			
15.205	Restricted Bands	PASS	N/A			
15.207	AC Power Conducted Emission	N/A	N/A			
15.249 &15.209	Radiated Spurious Emission	PASS	N/A			
15.215(C)	20dB Bandwidth	PASS	N/A			

Note: (1)"/" for no requirement for this test item.

(2)N/A is an abbreviation for Not Applicable.

(3)All tests were conducted using the adapter and antenna gain provided by the applicant, The laboratory tests only according to the information provided by the applicant.

## **Test Software**

Test Item	Test Software	Manufacturer	Version No.
Conducted Emission	EZ-EMC	EZ	CDI-03A2
Radiation Emission	EZ-EMC	EZ	FA-03A2RE
RF Conducted	MTS-8310	MWRFtest	V2.0.0.0
Measurement	1011 3-03 10	WWW. test	V2.0.0.0



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## 3. Test Equipment

Conducted Emission	n Test				
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jul. 13, 2019	Jul. 12, 2020
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 13, 2019	Jul. 12, 2020
AMN	SCHWARZBECK	NNBL 8226-2 8226-2/164		Jul. 13, 2019	Jul. 12, 2020
LISN	Rohde & Schwarz	ENV216	101131	Jul. 13, 2019	Jul. 12, 2020
Radiation Emission	Test				
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 13, 2019	Jul. 12, 2020
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 13, 2019	Jul. 12, 2020
Spectrum Analyzer	Rohde & Schwarz	FSVR	1311.006K40-10094 5-DH	Feb. 10, 2019	Feb. 09, 2020
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Jan. 27, 2019	Jan. 26, 2020
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Jan. 27, 2019	Jan. 26, 2020
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar.03, 2019	Mar. 02, 2020
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar.03, 2019	Mar. 02, 2020
Horn Antenna	ETS-LINDGREN	BBHA 9170	BBHA9170582	Mar.03, 2019	Mar. 02, 2020
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jul. 13, 2019	Jul. 12, 2020
Pre-amplifier	Sonoma	310N	185903	Mar.04, 2019	Mar. 03, 2020
Pre-amplifier	HP	8449B	3008A00849	Mar.03, 2019	Mar. 02, 2020
Pre-amplifier	SKET	LNPA_1840G-50	SK201904032	Jul. 27, 2019	Jul. 26, 2020
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar.03, 2019	Mar. 02, 2020
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Antenna Condu	ucted Emission	1			
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 13, 2019	Jul. 12, 2020
Spectrum Analyzer	Rohde & Schwarz	ESCI	100010/007	Jul. 13, 2019	Jul. 12, 2020
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Sep. 16, 2019	Sep. 15, 2020
Vector Signal Generator	Agilent	N5182A	MY50141294	Sep. 16, 2019	Sep. 15, 2020
Analog Signal Generator	Agilent	N5181A	MY50141953	Sep. 16, 2019	Sep. 15, 2020
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO26	Sep. 16, 2019	Sep. 15, 2020
DE Davida Cara	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO29	Sep. 16, 2019	Sep. 15, 2020
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO31	Sep. 16, 2019	Sep. 15, 2020
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO33	Sep. 16, 2019	Sep. 15, 2020



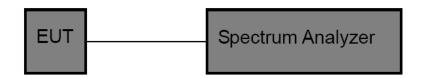
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## 4. Duty Cycle

#### 4.1 Test Standard and Limit

5.1.1 Test Standard FCC 15.231

#### 4.2 Test Setup



#### 4.3 Test Procedure

- (1) The EUT was directly connected to the spectrum Analyzer and antenna output port as show in the block diagram above.
- (2) Set EUT Normal operating mode.
- (3) Set the Spectrum Analyzer to the transmitter carrier frequency, and set the spectrum analyzer resolution bandwidth (RBW) to 100 kHz and video bandwidth (VBW) to 300 kHz, Span was set to 0 Hz.
- (4) The Duty Cycle was measured and recorded.

### 4.4 EUT Operating Condition

The EUT was programmed to be in transmitting mode.

#### 4.5 Test Data

Not applicable.



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### 5. Conducted Emission Test

#### 5.1 Test Standard and Limit

5.1.1Test Standard FCC Part 15.207

#### 5.1.2 Test Limit

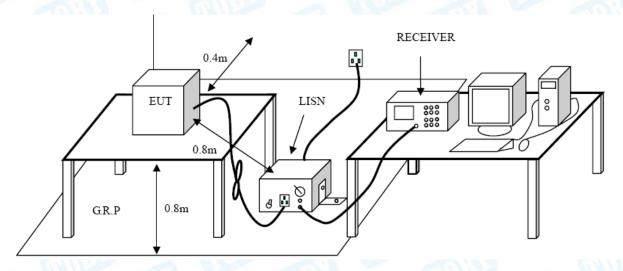
#### **Conducted Emission Test Limit**

Ereguenev	Maximum RF Line Voltage (dBμV)				
Frequency	Quasi-peak Level	Average Level			
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *			
500kHz~5MHz	56	46			
5MHz~30MHz	60	50			

#### Notes:

- (1) \*Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

#### 5.2 Test Setup



#### 4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.



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I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN is at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

#### 5.4 EUT Operating Mode

Please refer to the description of test mode.

#### 5.5 Test Data

Dry battery power, not applicable.



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## 6. Radiated Emission Test

#### 6.1 Test Standard and Limit

6.1.1 Test Standard FCC Part 15.209

6.1.2 Test Limit

#### Radiated Emission Limit (9kHz~1000MHz)

Frequency (MHz	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

#### Radiated Emission Limit (Above 1000MHz)

Frequency	Distance Meters (at 3m)		
(MHz)	Peak	Average	
Above 1000	74	54	

#### Note:

(1) The tighter limit applies at the band edges.

(2) Emission Level(dBuV/m)=20log Emission Level(Uv/m)

#### Limits of Field strength of fundamental (15.249)

FCC Part 15 (15.249), Subpart C					
Limit	Frequency Range (MHz)				
	Field Strength of				
94.0(dBµV)/m@ 3 m	fundamental emissions for				
	902MHz-928MHz				

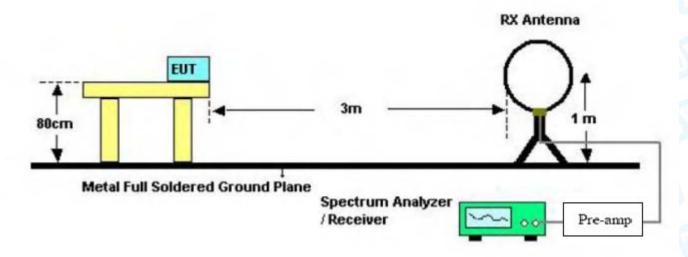
Restricted bands requirement for equipment operating in 902MHz-928MHz (15.249)



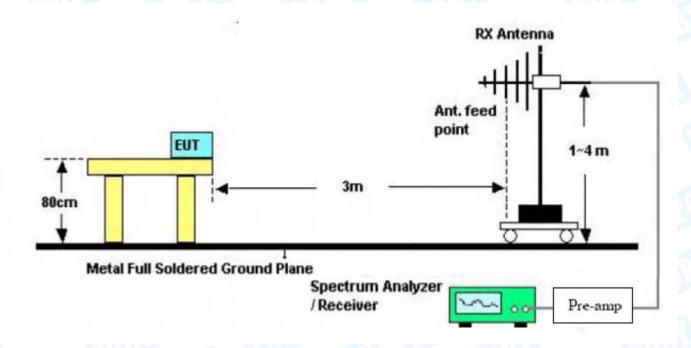


Restricted Frequency Band (MHz)	(dBuV/m)(at 3 M)
902-928	Attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in 15.209, whichever is the lesser attenuation

## 6.2 Test Setup



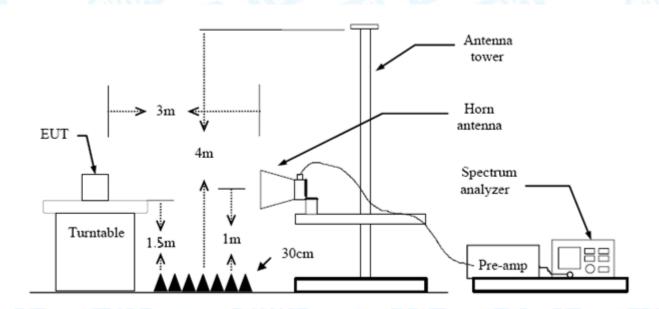
Bellow 30MHz Test Setup



Bellow 1000MHz Test Setup



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Above 1GHz Test Setup

#### 6.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency Below 1GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.



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## 6.4 EUT Operating Condition

The EUT was set to Continual Transmitting in maximum power, and new batteries are used during testing.

#### 6.5 Test Data

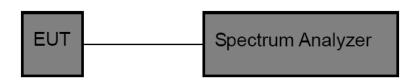
Please refer to the Attachment A.



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### 7. Bandwidth Test

#### 7.1 Test Setup



#### 7.2 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting:

Bandwidth: RBW=10 kHz, VBW=30kHz.

(3) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.

#### 7.3 EUT Operating Condition

The EUT was set to continuously transmitting for the Bandwidth Test.

#### 7.4 Test Data

Please refer to the Attachment B.



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## 8. Antenna Requirement

#### 8.1 Standard Requirement

7.1.1 Standard FCC Part 15.203

#### 7.1.2 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

#### 8.2 Antenna Connected Construction

The gains of the antenna used for transmitting is 2.3dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

#### 8.3 Result

The EUT antenna is a Spring Antenna. It complies with the standard requirement.

Antenna Type				
	▼ Permanent attached antenna			
A GROSS	□ Unique connector antenna			
min 1	□ Professional installation antenna			





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## **Attachment A-- Radiated Emission Test Data**

### Radiated Spurious Emission (9 KHz~30 MHz)

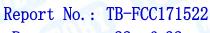
From 9 KHz to 30 MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB

below the permissible value has no need to be reported.

### Radiated Spurious Emission (Below 1 GHz)

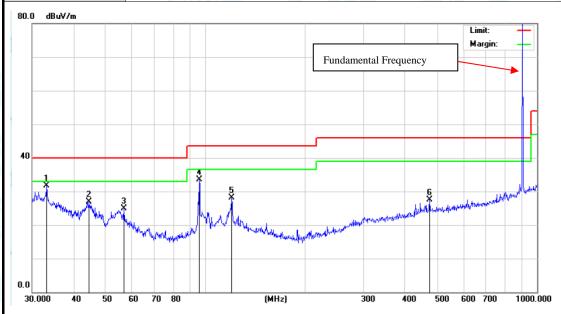
Temperature:	25 ℃			Relativ	e Humidit	<b>ty:</b> 5	5%	
Test Voltage:	DC 3	DC 3V						
Ant. Pol.	Horiz	ontal	111:00		- The second	100	7	
Test Mode:	TX 9	TX 915.15MHz						
Remark:	Only	worse case	is reported	600	1:10		(MI)	
80.0 dBuV/m								
			ľ	Fundamental Freq	uency	Limit: Margin:		
				T undumental T req	dency			
40					3 5			
							5   .	
1		+					T. Hall	
1 Commence of the contract of	2 2 Company of the co	when the property of the same	into singly was before to be	myster group to the said	notes from	dunies en en establica de la constanta de la c	MAL	
0.0 30.000 40 51		33		300	400 500	500 700	1000.000	
0.0			(MHz)			alexandria (		
30.000 40 50	0 60 70	80 Reading	(MHz)	300 Measure-	400 500	600 700		
0.0	Freq.	Reading Level	(MHz) Correct Factor	Measure- ment	400 500 Limit	600 700 Over	1000.000	
0.0 30.000 40 50 No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit dBuV/m	600 700  Over	1000.000  Detect	
0.0 30.000 40 50 No. Mk.	Freq.	Reading Level	(MHz) Correct Factor	Measure- ment	400 500 Limit	600 700 Over	1000.000	
0.0 30.000 40 50 No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit dBuV/m 40.00	600 700  Over	1000.000  Detect	
No. Mk.  1 33	Freq. MHz	Reading Level dBuV 47.49	Correct Factor dB -15.35	Measure- ment dBuV/m	Limit dBuV/m 40.00 40.00	0ver	Detect	
No. Mk.  1 33 2 56 3 110	Freq. MHz 3.0950 6.7917	Reading Level dBuV 47.49 47.88	Correct Factor dB -15.35 -24.10	Measurement dBuV/m 32.14 23.78	Limit dBuV/m 40.00 40.00	Over  dB  -7.86  -16.22	Detect QP QP	
No. Mk.  1 33 2 56 3 110 4 429	Freq. MHz 3.0950 6.7917 0.1816	Reading Level dBuV 47.49 47.88 44.74	Correct Factor dB -15.35 -24.10	Measure- ment dBuV/m 32.14 23.78 22.27	Limit dBuV/m 40.00 40.00 43.50	Over  dB  -7.86  -16.22  -21.23	Detect QP QP QP	





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Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3V	TUIL TO	
Ant. Pol.	Vertical	MILLS	
Test Mode:	TX 915.15MHz		
Remark:	Only worse case is reported		N. C.



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB	dBuV/m	dBuV/m	dB	Detector
1	*	33.2112	47.15	-15.43	31.72	40.00	-8.28	QP
2		44.5868	48.28	-21.45	26.83	40.00	-13.17	QP
3		56.7917	48.97	-24.10	24.87	40.00	-15.13	QP
4		95.7622	55.60	-22.09	33.51	43.50	-9.99	QP
5		119.8556	50.37	-22.31	28.06	43.50	-15.44	QP
6	- 4	473.8347	38.53	-11.10	27.43	46.00	-18.57	QP

**Emission Level= Read Level+ Correct Factor** 

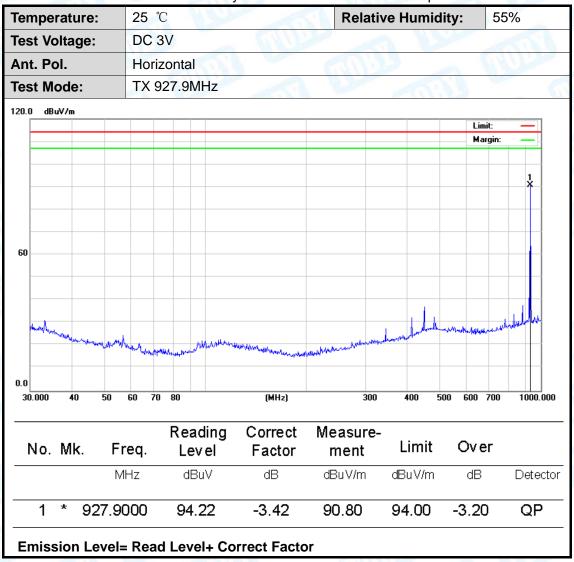




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#### Field strength of fundamental

Remark: All channels were tested and only the worst was shown in the report.





25 ℃ Temperature: **Relative Humidity:** 55% Test Voltage: DC 3V Ant. Pol. Vertical Test Mode: TX 927.9MHz 120.0 dBuV/m Limit: Margin: 0.0 30.000 60 70 80 (MHz) 300 600 700 1000.000 400 500 Correct Reading Measure-Limit Over No. Mk. Freq. Factor Level ment MHz dBuV dΒ dBuV/m dBuV/m dΒ Detector -3.13 927.9000 94.29 -3.4290.87 94.00 QΡ **Emission Level= Read Level+ Correct Factor** 



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## Radiated Spurious Emission (Above 1 GHz)

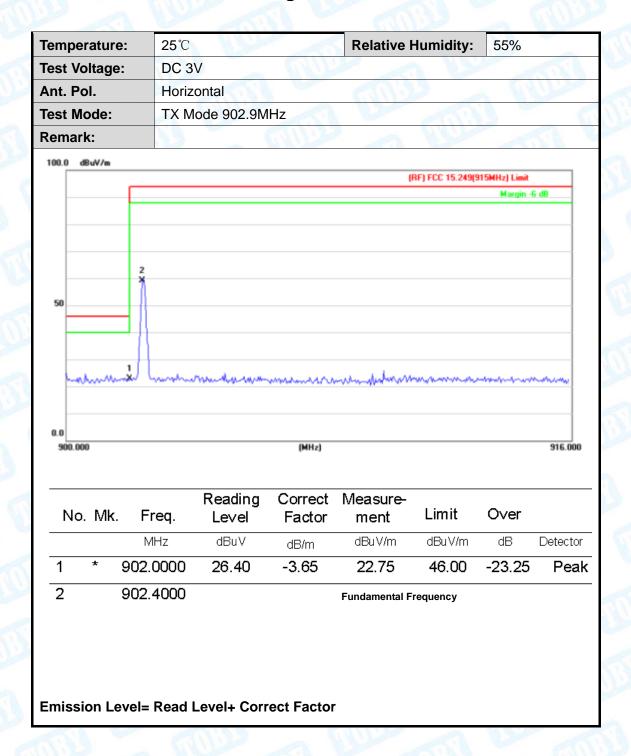
channel: 90	2 9 MI	H <sub>7</sub>	WALLS.		P. P. C.				20101	
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Peak	on Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Peak Margin (dB)	AV Margin (dB)
1805.80	Н	58.64	36.78	-1.01	57.6	35.74	74	54	-16.4	-18.26
2708.70	Н	59.37	35.05	4.05	63.42	39.1	74	54	-10.58	-14.9
3611.60	Н	55.14	33.19	9.00	64.14	42.19	74	54	-9.86	-11.81
	Н			10.7		11111				
1805.80	V	58.14	37.04	-1.01	57.1	36	74	54	-16.9	-18
2708.70	V	58.30	35.78	4.05	62.35	39.83	74	54	-11.65	-14.17
3611.60	V	55.34	32.77	9.00	64.34	41.77	74	54	-9.66	-12.23
(14)	V		107777					(	712-1	<b>D</b>
channel: 91	5.15 N	ЛHz	A \ /	1	I Form		1	1	1	Г
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Peak	on Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Peak Margin (dB)	AV Margin (dB)
1830.30	Н	60.14	37.47	-1.21	58.93	36.26	74	54	-15.07	-17.74
2745.45	Н	61.26	37.98	4.17	65.43	42.15	74	54	-8.57	-11.85
3660.60	Н	56.84	34.01	9.33	66.17	43.34	74	54	-7.83	-10.66
67	Н	19	WY	1300				1	11-	3)
1830.30	V	60.63	37.45	-1.21	59.42	36.24	74	54	-14.58	-17.76
2745.45	V	59.87	36.21	4.17	64.04	40.38	74	54	-9.96	-13.62
3660.60	V	58.05	34.15	9.33	67.38	43.48	74	54	-6.62	-10.52
# TAIR.	V				3		111 77 3		W	
channel: 92	7.9 M	Hz								
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Peak	on Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dΒμV/m)	Peak Margin (dB)	AV Margin (dB)
1855.80	Н	59.67	36.44	-1.57	58.1	34.87	74	54	-15.9	-19.13
2783.70	Н	60.53	36.74	4.69	65.22	41.43	74	54	-8.78	-12.57
3711.60	Н	57.82	34.35	9.81	67.63	44.16	74	54	-6.37	-9.84
\	Н		7		7-1		(7-4)	J	-77//	
1855.80	V	60.11	35.88	-1.57	58.54	34.31	74	54	-15.46	-19.69
2783.70	V	59.81	35.69	4.69	64.5	40.38	74	54	-9.5	-13.62
3711.60	V	58.73	34.73	9.81	68.54	44.54	74	54	-5.46	-9.46
3	V		J		25-2	\				0





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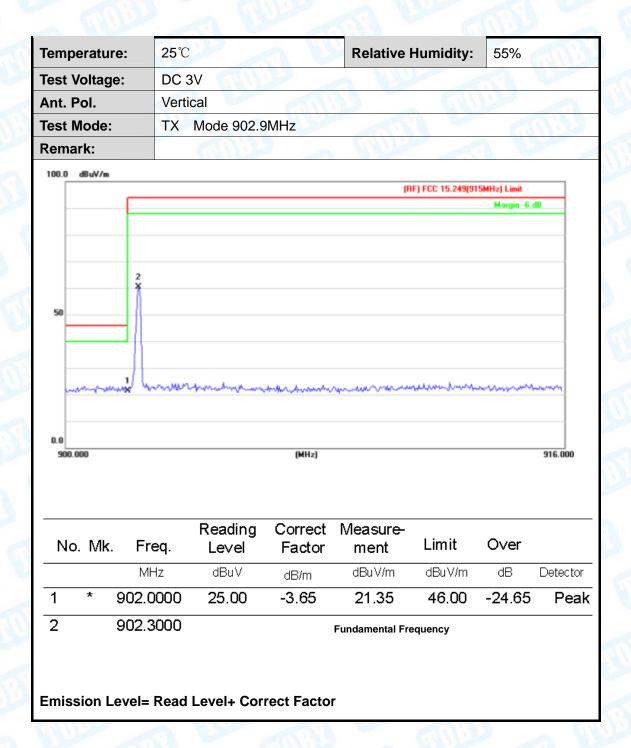
#### **Restricted Bands and Band-edge**







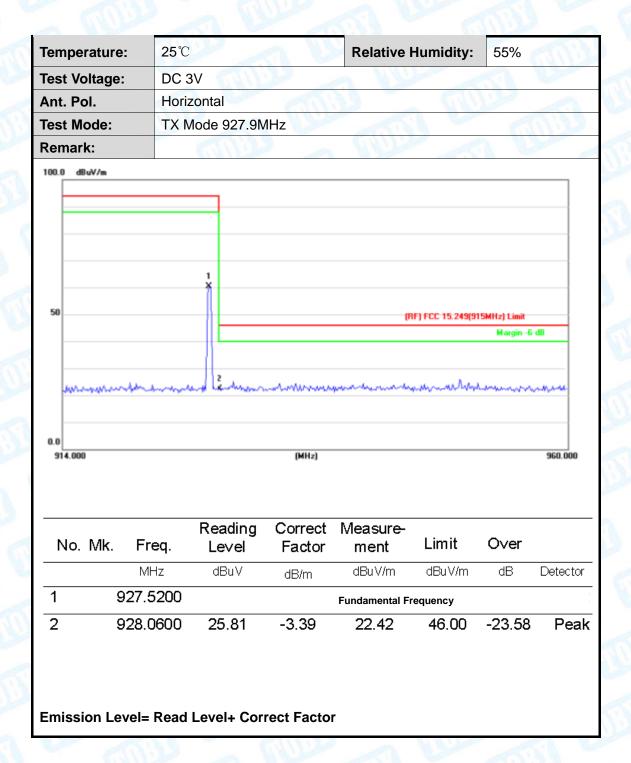
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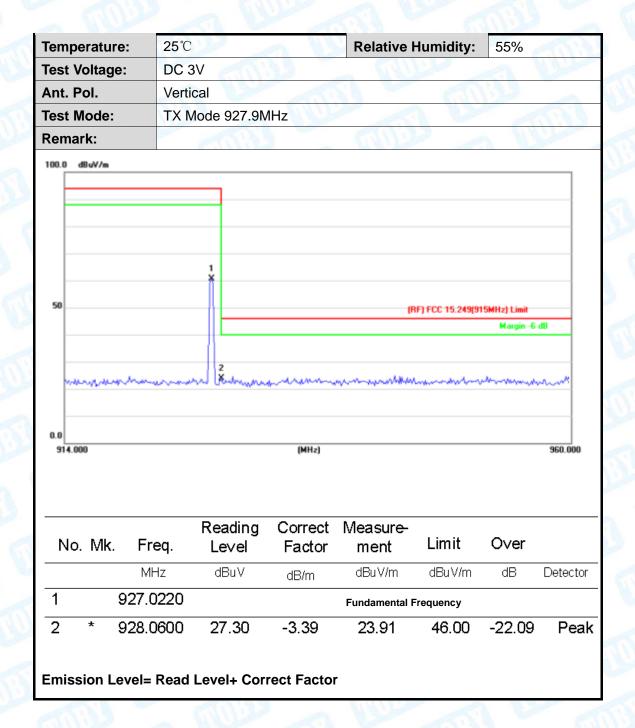
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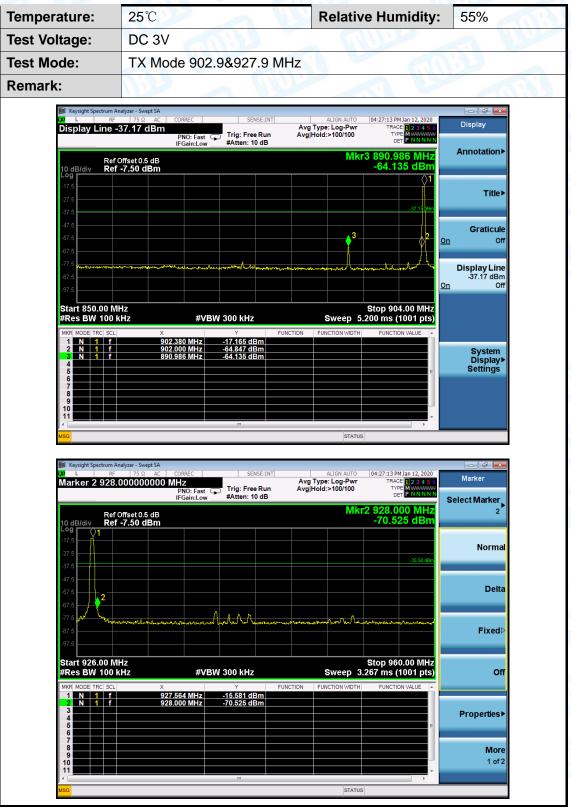






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#### **Conducted Test**



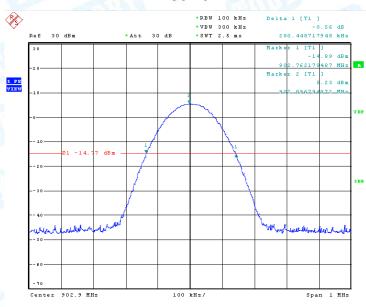




**Attachment C--Bandwidth Test Data** 

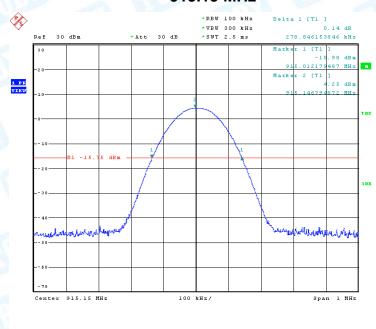
Channel Frequency (MHz)	20dB Bandwidth (KHz)		
902.90	280.45		
915.15	278.85		
927.90	278.85		

#### 902.9 MHz



Date: 17.0CT.2019 15:55:12

#### 915.15 MHz



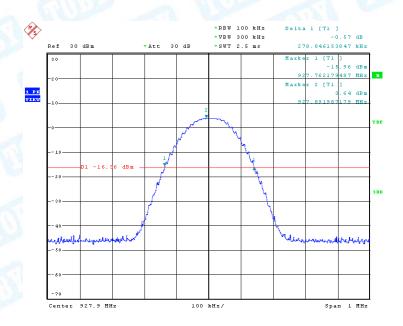
Date: 17.0CT.2019 15:53:26





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#### 927.9 MHz



Date: 17.00T.2019 15:51:28

----END OF REPORT----